

Part II

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IMPACTT

Integrating Multiple Perspectives
Across the Curriculum for
Today & Tomorrow



IMPACTT

- Completely integrated environmental health high school academy
- Systemic reform



Which Means?

- Integrated
 - Subjects are not isolated packets
 - Science, math, English, P.E. & social studies are integrated together
- Environmental Health
 - Science is the backbone of the program
 - E.H. is the “hook” and continuous thread



Which Means? Cont'd

- High School
 - 9th & 10th grade currently implemented
 - 11th & 12th grades will be added
- Academy
 - “School within a school”
 - All year, all day
 - All required academic credits
 - Any student can enroll



Systemic Reform

- Fundamentally different approach to education.
- This is not a band aid, this is major restorative surgery.



How?

- Fundamental principles that drive our program
 - Process oriented
 - Mastery of skills
 - Systems thinking
 - Science knowledge = educated citizenry




Curriculum Structure


- Unit (5-7 per year)
 - Major Projects (1-3 per Unit)
 - » Lessons/activities (10-30 per Major Project)



Example

- UNIT - Air Quality
 - MAJOR PROJECT - Video documentary on cancer induced by tobacco

	Content/Activities				
	SCIENCE	ENGLISH	TECHNOLOGY	MATH	P.E.
	Background reading (text or internet)	Watch Nova "Cancer Warrior"	Use word processing software.	Investigate and graph cancer population statistics	Identify fruits & vegetables high in antioxidants
	Create a model of a cell	Draw a storyboard for the video.	Use Excel and/or a graphing calculator to track and analyze data.	"Cancer as a Multi-step Process" – calculate risk	Prepare the garden
	Explore the cell cycle (multiple activities)	Write the narration for the video (using content from research, activities, & experiment).	Use a digital video camera to film the documentary.	"Model exponential growth & cancer cells"	Guest speaker – Native American uses of tobacco.
	"Good Cells Gone Bad"		Edit the documentary with digital editing software.		
	CD-ROM: "Cancer and the Cell Cycle"	Create questions for interviews (scientist, cancer survivor, etc.)	Conduct research on the internet (multiple activities)	Analyze data from the "Tobacco Induced Mutations" experiment	Guest speaker – Cancer researcher and/or a doctor
	Simulate a restriction enzyme analysis				Guest speaker – Tips on reporting
	CD-ROM: Explore the AMES test				Gather & prepare Native American recipes.
	"Tobacco Induced Mutations" lab (Ames Assay)	Conduct library research (multiple activities)		Model the spread of cancer using system dynamics	Exercise & cancer prevention.
	Investigate cancer treatment and prevention, include dietary factors.				



Conclusions

- Preliminary Data (9th grade)
 - 20% fewer disciplinary referrals
 - 83% A's in 6 subjects (compared to 66%)
 - Excellent attendance
- Entire 10th grade class continuing from last year
- Family feedback



Future

- 4 year academy
- Meet college admissions requirements
- Exceed science admissions requirements